

Section 1

MANAGEMENT OF CHANGE (MOC)

MOC No: 21192	Originator: Siebert, Matthew J.	Date Issued: 11/17/2009	Passport No:	EWO No:	ABU: RLOP	Plant: LNHF 13 Plant	Year: 2009
Section 2 Reviewer: Siebert, Matthew J.	MOC Category: Routine	PSM:	MOC Type: Permanent	Expiration Date:	Other Temporary Reason		
Project/Equipment Title: Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD							
Description of Change: The minimum LNF feed rate is listed as 10.0 KBPD in the COD table. Operational experience indicates that the LNF can run 9.0 KBPD.							

MOC will be required if the change will:

- ☐ Cause the use of different feed, chemicals or catalysts?
☒ Cause the use of different process conditions, process control, instrumentation, and protective devices or affect upstream/downstream plants?
☐ Cause the use of new or modified equipment [which is other than inkind]?
☐ Alter equipment siting, building, trailer locations, roads or fire protection?
☒ Require modifying existing and/or developing new procedures?

☒ Simultaneously Begin Construction and Start-up

Section 2

Stage 1	Pre-Implementation	Dept./Person Responsible	Date Complete	Completed By	References
	Design Review				
	Process Engineering Review	Hamilton-Ross, Ashley	#####	Hamilton-Ross, Ashley	
	Instrumentation Review				
	Control System Review	Carter, Grady E.	#####	Carter, Grady E.	
	Utilities Review				
	Environmental/Regulatory Review	Tarter, Donald J.	#####	Tarter, Donald J.	
	Safety/Regulatory Review				
	Building Permits Review	Linares, Elena E.	#####	Linares, Elena E.	
	Mechanical Review				
	Inspection Review				
	Metallurgy Review				
	Construction Review				
	Leak Seal Review				
	Relief System Review				
	Infrastructure Review				
	PHA/HSE Review	Hamilton-Ross, Ashley	#####	Hamilton-Ross, Ashley	

Authorization to Implement Change (Begin Construction): Approver: Seidlitz, Michael R. Date: 11/30/2009

Stage 2	Pre-Startup	Dept./Person Responsible	Date Complete	Completed By	References
	Procedures Review	Henrickson, Alan C.	1/25/2011	Henrickson, Alan C.	
	Communication/Training 1	Norris, Paul	#####	Norris, Paul	
	Pre Start-up Safety Review	Siebert, Matthew J.	8/23/2011	Siebert, Matthew J.	

Authorization to Start-Up Change: Approver: Siebert, Matthew J. Date: 8/23/2011

Extension of Temporary Change Approved By:	Approver:	Expiration Date:	Extension Reason
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Stage 3	Post-Startup	Dept./Person Responsible	Date Complete	Completed By	References
	Communication/Training				
	Process Safety Information	McCall, Patrick D.	8/23/2011	McCall, Patrick D.	

Change in Place - Reviews, Documentation & Testing Complete

Approver: Siebert, Matthew J. Date: 8/23/2011

MOC Cancelled:

Approver: Cancellation Reason: Date:

Note 1: Emergency request for change should be routed by the Approver on the next working day Retain Original in Division for five Years

PROCESS ENGINEERING REVIEW CHECKLIST

You have been assigned a Process Engineering Review.
This checklist is a guide to help ensure that all information
necessary to evaluate the change is considered.

MOC Number 21192

Filing Reference

Person Responsible Hamilton-Ross, Ashley

Completed By Hamilton-Ross, Ashley

Date Completed 11/19/2009

Project/Equipment Title:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

DOCUMENTATION

- ☐ Drafting Work Requisition, MFG-5545
- ☐ Maximum Intended Inventory Update
- ☐ MSDS's
- ☐ PED Records
- ☐ Relief System Drawings

PROCESSES REVIEW

- | | |
|--|--|
| <input type="checkbox"/> ASTM-TBP-EFV Distillation Relationships | <input type="checkbox"/> Suppliers' Performance |
| <input type="checkbox"/> BIN Best Practice | <input type="checkbox"/> Surface Tensions |
| <input type="checkbox"/> Characterization of Petroleum Fractions | <input type="checkbox"/> Thermal Properties |
| <input type="checkbox"/> Composition & Flow Information | <input type="checkbox"/> Upstream & Downstream Impacts |
| <input type="checkbox"/> Conversion Factor & Constants | <input type="checkbox"/> Vapor-Liquid Equilibria |
| <input type="checkbox"/> Delivery Needs | <input type="checkbox"/> Vapor Pressures |
| <input type="checkbox"/> Densities | <input type="checkbox"/> Viscosities |
| <input type="checkbox"/> Fundamental Properties | |
| <input type="checkbox"/> Honeywell | |
| <input type="checkbox"/> Honeywell Process Simulator | |
| <input type="checkbox"/> Material & Energy Balance | |
| <input type="checkbox"/> New Catalyst of Feeds | |
| <input type="checkbox"/> Operating Parameters | |
| <input type="checkbox"/> Physical Properties of Streams or Catalysts | |
| <input type="checkbox"/> Solubilities | |

SUMMARY OF REVIEW*

Minimum feedrate adjusted for lower W7R inventory. Original design is 10 MBPD. LNF has varied feedrates for different products.

Concern: Channeling in reactors.

Not an issue. The ID of the LNF reactors are identical to the HNF reactors, which have a lower design feedrate (5 MBPD).

R1310 ID: 6'

R1610 ID: 6'

R1311 ID: 6'

R1611 ID: 6'

Concern: Insufficient vapor traffic in C1750.

Can use offset routing.

*When possible include copies of documents referenced in the summary.

CONTROL SYSTEM REVIEW CHECKLIST

You have been assigned a Control System Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number 21192

Filing Reference

Person Responsible Carter, Grady E.

Completed By Carter, Grady E.

Date Completed 11/19/2009

Project/Equipment Description:

The minimum LNF feed rate is listed as 10.0 KBPD in the COD table. Operational experience indicates that the LNF can run 9.0 KBPD.

CONTROL SYSTEM:

- | | |
|---|---|
| <input type="checkbox"/> Alarm Objective Analysis | <input type="checkbox"/> Loop Diagrams |
| <input type="checkbox"/> Analyzer Instruments | <input type="checkbox"/> P&ID Change due to New / Modified equipment |
| <input type="checkbox"/> Chevmon | <input type="checkbox"/> P&ID's Change - Field condition not matching existing P&ID |
| <input type="checkbox"/> Control Objectives Analysis | <input type="checkbox"/> Pressure Measurements |
| <input type="checkbox"/> Control Room Design | <input checked="" type="checkbox"/> Process Alarms |
| <input type="checkbox"/> Control Systems | <input checked="" type="checkbox"/> Process Control |
| <input type="checkbox"/> Control Valves | <input type="checkbox"/> Relief Systems |
| <input type="checkbox"/> DCS | <input checked="" type="checkbox"/> Shutdown Systems |
| <input type="checkbox"/> Egatrol | <input type="checkbox"/> System Design |
| <input type="checkbox"/> Electrical One-lines | <input type="checkbox"/> Temperatue Measurements |
| <input type="checkbox"/> Field Installation | |
| <input checked="" type="checkbox"/> Flow Measurements | |
| <input type="checkbox"/> Honeywell | |
| <input type="checkbox"/> Honeywell Process Simulator | |
| <input type="checkbox"/> Instrument Seals, Purges and Winterizing | |
| <input type="checkbox"/> Intrinsic Safety | |
| <input type="checkbox"/> Ladder Logic Diagrams | |
| <input type="checkbox"/> Level Measurements | |

SUMMARY OF REVIEW*

No issues. There is nothing in the control system that would preclude this change.

*When possible include copies of documents referenced in the summary.

ENVIRONMENTAL REGULATORY REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number: 21192

Filing Reference:

Person Responsible: Tarter, Donald J.

Completed By: Tarter, Donald J.

Date Completed: 11/19/2009

Project/Equipment Title:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

CHEVRON:

☐ Yellow Book

REGULATORY:

- ☐ Army Corp Permit
- ☐ BAAQMD Air Regulations & Permits (including TitleV)
- ☐ Bay Conservation & Development Commission (BCDC)
- ☐ CEQA (EIR's, etc.)
- ☐ City of Richmond Conditional Use Permits (Land use and Hazardous Materials)
- ☐ City of Richmond Design Review Board
- ☐ Permit to Build and Remove Wells, County Permit Required
- ☐ Department of Transportation (DOT)
- ☐ EPA Benzene Neshap
- ☐ EPA Benzene Waste (BW) NESHAP
- ☐ EPA MACT Requirements
- ☐ EPA New Source Performance Standards (NSPS)
- ☐ Regulation 8 Organic Compounds Rule 8 Wastewater Collection and Separation Systems
- ☐ Risk Management & Prevention Plan (RMPP)
- ☐ RWQCB Waste Discharge Orders, EPA Consent Agreement Sites
- ☐ RWQCB NPDES Regulations & Permits
- ☐ RWQCB SB-1050, Waste Discharge Requirements (WDR)
- ☐ Spill Prevention & Counter Measure Plan (SPCC)
- ☐ Waste Regulations and Permits
- ☐ Wharf-related agencies (SLC, USCG, OSPR, EPA)
- ☐ ☒ Additions, modifications, or deletions of VOC Component/Equip

SUMMARY OF REVIEW*

No environmental regulatory issues.

*When possible include copies of documents referenced in the summary.

Tuesday, January 29, 2013

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BUILDING PERMITS REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Project/Equipment Title:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

MOC Number 21192

Filing Reference

Person Responsible Linares, Elena E.

Completed By Linares, Elena E.

Date Completed 11/19/2009

SUMMARY OF REVIEW*

MOC signed off. A City of Richmond building permit is not required based on the information provided in the scope of work, but is required for any new construction such as: electrical, instrumentation, pipe supports, structural modifications, and etc.

*When possible include copies of documents referenced in the summary.

Tuesday, January 29, 2013

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INSPECTION REVIEW CHECKLIST

You have been assigned a Inspection Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number: 21192

Completed On: 11/19/2009

Completed By: Bosworth, Gregory A.

Person Responsible: Bosworth, Gregory A.

Project/Equipment Description:

The minimum LNF feed rate is listed as 10.0 KBPD in the COD table. Operational experience indicates that the LNF can run 9.0 KBPD.

Yes	No	Plant Protection/Security Review
<input type="checkbox"/>	<input checked="" type="checkbox"/>	City Fire-Plan Review is Mandato
<input type="checkbox"/>	<input checked="" type="checkbox"/>	City Fire-Permit is Mandato
<input type="checkbox"/>	<input checked="" type="checkbox"/>	City Acceptance Test is Mandato
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Office of Fire Prevention Review On

No Fire-Plan Review and/or Fire-Permit are required from the Richmond Fire Dept based on the scope of work description.

The Office of Fire Prevention has reviewed the scope work description and has found that the existing fire protection is either acceptable, or that the scope of work does not require a change in fire protection for the area.

Please contact Chevron's Office of Fire Prevention with any questions at (510) 242-5481.

HEALTH & SAFETY EVALUATION

Date Issued: 11/17/2009

Maximo Number: _____

MOC Number 21192

ABU: RLOP

EWO Number _____

Filing Reference _____

Plant: LNHF 13 Plant

Person Responsible Hamilton-Ross, Ashley

Section 2 Reviewer: Siebert, Matthew J.

Completed By Hamilton-Ross, Ashley

Project/Equipment Title: Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

Date Completed 11/19/2009

Description: The minimum LNF feed rate is listed as 10.0 KBPD in the COD table. Operational experience indicates that the LNF can run 9.0 KBPD.

Step 1: ☐ Notify USW ☐ USW Representation Present USW Representative: _____

Worker's Committee Member/Steward's comments if unable to attend: _____

☐ Notify Trainer ☐ Trainer Representation Present Training Representative: John Barthel

Step 2: Involve: Operations, Maintenance, Technical and others with appropriate expertise relevant to the change (CRTC, Contractors, etc)

Attendees: BK White, Grady Carter, Ashley Hamilton-Ross, Matt Siebert

Step 3: Think about the task at hand. Discuss the existing situation. Discuss the change. Discuss the impact of the change on the existing situation. Determine the training requirements for this change.

Step 4: Training Type: 1

Develop a list of concerns, consider your options, consider your following:

*H2S *NH3 *Acid *Caustic *Benzene *Fall Protection *Staging *Scott Air *PPE *Hot Work *Confined Space Entry *Evacuation Plan *Safety Operator

Concern	Consequence	Mitigation	Proceed Safely
Running the small LNF feed pump (P-1301A)	Decrease pump min flow; better control; higher suction pressure	No issues	Yes
P-1330 may require N2 to push out naphtha to GRU	Send N2 to K-1900	Open/close spillbacks on K-1900; change V-1920 vent gas flow to K-1900	Yes
F-1750 low tube flow alarm is 2.0 KBPD per pass	Trip F-1750 if go too low	Utilize short loop circulation on C-1750	Yes
Poor distribution in reactor due to low flow	Poor yields, hot spots	Increase gas/oil ratio	Yes

HSE Action Items

Additional Comments

HEALTH & SAFETY EVALUATION

Date Issued: 11/17/2009

Maximo Number: _____

MOC Number 21192

ABU: RLOP

EWO Number _____

Filing Reference _____

Plant: LNHF 13 Plant

Person Responsible Hamilton-Ross, Ashley

Section 2 Reviewer: Siebert, Matthew J.

Completed By Hamilton-Ross, Ashley

Project/Equipment Title: Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

Date Completed 11/19/2009

Description: The minimum LNF feed rate is listed as 10.0 KBPD in the COD table. Operational experience indicates that the LNF can run 9.0 KBPD.

No further issues.

PROCEDURE REVIEW CHECKLIST

You have been assigned a Procedure Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number 21192

Filing Reference

Person Responsible Henrickson, Alan C.

Completed By Henrickson, Alan C.

Date Completed 1/25/2011

Project/Equipment Description:

The minimum LNF feed rate is listed as 10.0 KBPD in the COD table. Operational experience indicates that the LNF can run 9.0 KBPD.

- ☐ Alarm Procedures
- ☐ Any Special or unique hazards
- ☒ COD/Ops Monitor
- ☐ Consequences of deviation
- ☐ Control measure to be taken if physical contact or airborne exposure occurs.
- ☐ Precautions necessary to prevent exposure, including administrative controls, engineering controls, and personnel protective equipment.
- ☐ properties of, and hazards presented by, the chemicals and operation of the process.
- ☐ References to additional procedures, such as Safe Work Practices
- ☐ Routine Duties
- ☐ Safety system and their functions
- ☐ Steps required to correct and/or avoid deviation

Steps fo each operatong Phase

- ☐ Emergency
- ☒ Normal
- ☐ Start-Up/Shutdown
- ☐ Temporary

SUMMARY OF REVIEW*

Added New LNF 9.0KBPD feed rate to Vol.1,LNF Process Description and COD Table.

*When possible include copies of documents referenced in the summary.

Stage Two Training and Communication Review

1/29/2013 9:58:34 AM

- ☒ Identify the affected employees.
- * Maintenance and Technical affected?
 - * Employee who will require training to start up the change based on the level of training.
 - * Employees who will receive training after the start up BUT before they can perform work affected by the change
- ☐ Procedures have been modified/written (Ops/SSO/Trainer)
- ☐ Identify the affected employees..
- * Lesson plan cover sheet (includes training objective statement and list of affected employees)
 - * Procedural changes (Standing Orders, mark-ups)
 - * Flow daigrams (final or mark-ups)
- ☐ Determine level of training
- ☐ Training has been scheduled
- ☐ Affected employees have been trained in order to start up the change.

MOC No: 21192

Date Completed: 11/30/2009

Completed By: Norris, Paul

Person Responsible: Norris, Paul

Project/Equipment Title:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

Summary of Review:

Minimum feedrate adjusted for lower W7R inventory. Original design is 10 MBPD. LNF has varied feedrates for different products.

Concern: Channeling in reactors.

Not an issue. The ID of the LNF reactors are identical to the HNF reactors, which have a lower design feedrate (5 MBPD).

R1310 ID: 6'

R1610 ID: 6'

R1311 ID: 6'

R1611 ID: 6'

Concern: Insufficient vapor traffic in C1750.

Can use offset routing.

APPENDIX III

PRE-START-UP SAFETY REVIEW CHECKLIST

You have been assigned a Pre Start-Up Safety Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Passport No.: _____
EWO No.: _____
MOC PSSR.: 21192.001

MOC Number 21192
Filing Reference _____
Person Responsible Siebert, Matthew J.
Completed By Siebert, Matthew J.
Date Completed 8/23/2011

Project/Equipment Description:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

Subsystem:

NOT The PSSR facilitator shall involve employees with expertise in process operations, maintenance, and engineering, based upon their experience and understanding of the process system being evaluated.

The following requirements for PSSR shall be addressed:

1. Has the equipment and construction been completed in accordance with the critical design specifications?
Some examples of how this may be accomplished are:
 - * Review of equipment quality assurance and inspection records.
 - * Review of construction inspection records.
 - * P & ID "check" after mechanical completion, and facility "walk-through" inspection.

Approved by: Siebert, Matthew J. Date: 8/23/2011

Justification: N/A

2. Are Safety, operating, maintenance, and emergency procedures in place and adequate?
 - * The phrase "in place and adequate" means: written, reviewed, approved, and accessible to employees requiring the procedures in their work.
 - * This does not prevent the use of "mark-up" procedures to satisfy the requirement, but these must undergo the same review and approval and training interaction as would "the final version" of the same procedure and would require rigorous control.

Siebert, Matthew J. 8/23/2011

Justification: EOM Volume 1 and EOM updates complete

3. Has the communication or training of affected operating, maintenance, or contract workers been completed?
 - * Maintenance employees, contractors, and other employees whose work is affected by the change must be informed of the change and training in the impact on their job tasks before the changed equipment is started up.

Siebert, Matthew J. 8/23/2011

Justification: Communication sent

4. Have the quality assurance goals of mechanical integrity been met?
 - * Ensure that changes are suitable for the intended service.
 - * Ensure that the quality of the work is acceptable.
 - * Ensure that the quality of the Leak Seal is acceptable.

Siebert, Matthew J. 8/23/2011

Justification: N/A

5. Have all recommendations resulting from PHA's or HSE's been addressed or resolved?
 - * Ensure all Recommendations have been documented as addressed or resolved

Siebert, Matthew J. 8/23/2011

APPENDIX III

PRE-START-UP SAFETY REVIEW CHECKLIST

You have been assigned a Pre Start-Up Safety Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Passport No: _____
EWO No.: _____
MOC PSSR.: 21192.001

MOC Number 21192
Filing Reference _____
Person Responsible Siebert, Matthew J.
Completed By Siebert, Matthew J.
Date Completed 8/23/2011

Project/Equipment Description:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

Subsystem:

Justification: N/A

Are there any safety-related exceptions encountered during the PSSR that require follow-up after started up? ☐ Yes

Miscellaneous Comments:

<i>Exception</i>	<i>Owner</i>	<i>Completed By</i>	<i>Completed On</i>	<i>Notified</i>
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PSI REVIEW CHECKLIST

MOC Number	21192
Filing Reference	
Person Responsible	McCall, Patrick D.
Completed By	McCall, Patrick D.
Date Completed	8/23/2011

Project/Equipment Title:

Decrease Minimum LNF feed rate from 10.0 to 9.0 KBPD

PSI Documents

SUMMARY OF REVIEW*

Procedures have been updated and posted to the COD and EOM.

*When possible include copies of documents referenced in the summary.

Tuesday, January 29, 2013

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